

SACRAMENTO-YOLO
MOSQUITO & VECTOR
CONTROL DISTRICT

JANUARY 15, 2019

BOARD OF TRUSTEES
REGULAR MEETING

BOARD PACKET

10:00 A.M.

8631 Bond Road
Elk Grove, CA 95624

**SACRAMENTO/YOLO MOSQUITO
& VECTOR CONTROL DISTRICT
BOARD OF TRUSTEES REGULAR MEETING**

8631 Bond Road
Elk Grove, CA 95624

**AGENDA
January 15, 2019
10:00 AM**

In compliance with the Americans with Disability Act, if you are a disabled person and you need a disability-related modification or accommodation to participate in this meeting, please contact the District office at (916) 685-1022 or (916) 685-5464 (fax). Requests must be made as early as possible, and at least one-full business day before the start of the meeting. Documents and materials relating to an open session agenda item that are provided to the SYMVCD Board less than 72 hours prior to a regular meeting will be available for public inspection and copying at 8631 Bond Road, Elk Grove, Ca 95624. The documents will also be available on the agency's website at www.fightthebite.net.

CALL TO ORDER:

- **Roll Call**
- **Pledge of Allegiance**

1. Items for Approval by General Consent:

- a. Minutes of the December 18, 2018 Board of Trustees Meeting**
- b. Expenditures for December 2018**
- c. Board Review and Consideration of District Annual Safety Committee Report**

2. Opportunity for Public Comment

This item is reserved for members of the public who wish to speak on items not on the agenda

3. Reports to the Board

- a. Manager's Report**
- b. Reports from District Departments**
 - **Lab/Surveillance**
 - **Ecological Management**
 - **Biological Control**
 - **Larval and Adult Control**
 - **Field Supervisor**
 - **Public Outreach**

4. **Board Consideration and Approval of District Officers for President, Vice President, and Secretary and Delegating the Manager to Perform the Responsibilities of the Secretary**
5. **Board Review of District 5 Year Plan**
6. **Closed Session-Public Employee Performance Evaluation: Manager**
7. **Board/Staff General Discussion**
8. **Adjournment**

Sacramento-Yolo Mosquito and Vector Control District

January 15, 2019 Board Meeting

1. Items for Approval by General Consent:

- a. Minutes of the December 18, 2018 Board of Trustees Meeting;
- b. Expenditures for December 2018;
- c. Board Review and Consideration of District Annual Safety Committee Report.

Recommendation:

Approve the Items by General Consent

**MINUTES OF THE DECEMBER 18, 2018
SPECIAL MEETING OF THE BOARD OF TRUSTEES OF THE
SACRAMENTO-YOLO MOSQUITO & VECTOR CONTROL DISTRICT**

PLACE: 8631 Bond Road, Elk Grove, CA 95624
TIME: 10:00 a.m.

TRUSTEES PRESENT:

Susan Maggy	President	Sacramento County
Raymond LaTorre	Vice President	Sacramento
Jayna Karpinski-Costa	Secretary	Citrus Heights
Craig Burnett		Folsom
Raul DeAnda		West Sacramento
Sean Denny		Woodland
Bruce Eldridge		Yolo County
Frederick Goethel		Galt
Lyndon Hawkins		Elk Grove
Gar House		Winters
Robert McGarvey		Rancho Cordova
Rosemarie Moore		Isleton

TRUSTEES ABSENT:

Christopher Barker	Davis
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STAFF PRESENT:

Gary Goodman	Manager
Samer Elkashef	Assistant Manager
Janna McLeod	Administrative Manager
Marcia Reed	Laboratory Director
Marty Scholl	Ecological Management Supervisor
Steven Ramos	Program Coordinator
Luz Maria Robles	Public Information Officer
Deborah Dritz	Vector Ecologist
Sarah Wheeler	Biologist
Kara Kelley	Microbiologist
Garth Ehrke	Field Supervisor
Demetri Dokos	Field Supervisor
Kevin Combo	Field Supervisor
Randy Burkhalter	Field Supervisor
Ruben Rosas	GIS Coordinator
Dan Fisher	IT Administrator
Tom Price	Shop Supervisor

CALL TO ORDER

The meeting was called to order at 10:00 a.m. by President Susan Maggy.

Roll Call

Trustee Christopher Barker is absent; however, a quorum is present. Trustee McGarvey left the meeting at 11:23am.

Pledge of Allegiance

All phones and electronic devices are requested to be silenced during the meeting.

1. ITEMS FOR APPROVAL BY GENERAL CONSENT

On a motion by Trustee Frederick Goethel seconded by Trustee Sean Denny the Board voted to approve General Consent Items a. through f. The motion passed by the following vote: Ayes: 12, Noes: 0, Absent: 1.

- a. Minutes of the November 13, 2018 Board of Trustees Meeting;
- b. Expenditures for November 2018;
- c. Deposit VCJPA Retrospective Adjustment of \$96,241 into District Member Contingency Fund;
- d. District Investment Report for Period Ending September 30, 2018;
- e. Board Review and Consideration of Legal Services Agreement Effective January 1, 2019;
- f. Board Authorization to Grant a Leave of Absence for District Employee Pursuant to Section 6.05 (b) of the District Personnel Manual and Article 10.1 (b) of the MOU Between the District and Local OE3.

2. OPPORTUNITY FOR PUBLIC COMMENT

This item is reserved for members of the public who wish to speak on items not on the agenda.

3. REPORTS TO THE BOARD

a. Manager's Report:

The year is at an end and staff is preparing for the upcoming 2019 season with planning, training, and maintenance of the equipment. The MVCAC planning session was held on December 6th and 7th. The discussion centered on legislative and regulatory priorities for the upcoming year. The District will be working on the 2019 Fight the Bite contest. District staff is continuing to work on the five year plan for future activities and direction of the District. Staff will provide an update to the Board in January on the items highlighted in the five year plan.

b. Reports from Trustees Attending MVCAC Quarterly and Planning Meetings

Trustee Lyndon Hawkins discussed his attendance at the MVCAC Quarterly meeting including the Trustee Council session. He commended Dan Fisher on his participation with the IT Committee given the expansion of their duties and responsibilities for the association. Trustee

Hawkins said the funding and use of the Dead bird hotline was discussed at the meeting with our District and San Joaquin being identified as the main users of the hotline. Aedes programs were discussed including one control district reporting that some of their residents had so many bites that they went to the emergency room. Trustee Hawkins sees this as a concern for all Districts to address moving forward.

c. Reports from District Departments: Written reports were provided in the Board packet from each department. Department supervisors gave an oral presentation and were available to answer any questions.

Lab/Surveillance: Laboratory Director, Marcia Reed provided a written report in the Board packet. Microbiologist, Kara Kelley, discussed this season's testing and results. Eleven tick sites were sampled for Lyme disease with 4.6% testing positive. The Sentinel Chicken program added a new flock at Gibson Ranch in the northern portion of the District. Approximately 668 Dead birds were sampled in 2018 with 42% testing positive for WNV. The District also tested 6,918 Mosquito pools (samples) with 5.63% testing positive for WNV. Kara has been the Laboratories Technology Committee Chair in 2018 and is stepping down as Chair for 2019. Debbie Dritz, Vector Ecologist, discussed her duties for 2018, she supervises 6 technicians performing trapping, maintaining colonies, and running bottle bioassays. The final construction of the colony rooms was completed this year. BG Counter Traps, with remote transmission of data to the District, were used in rice growing areas and areas of interest due to virus activity. Mosquito magnet traps are no longer manufactured and the repair company went out of business. As a result, a locker trap was designed and built in-house by Sarah Wheeler, Ben Weisenberg and Dan Fisher with assembly by Stanley Roberts. Biologist, Sarah Wheeler, discussed her duties in 2018 including managing the operational research questions while supervising two seasonal assistants and one lab technician. The locker traps were rolled out for surveillance beta testing this year. Staff is working on some improvements and traps will be distributed to all weekly sites in 2020. Sarah and staff participated in a rice residue study on organic rice to try to determine what, if any, products are leaving residue on rice plants. Dr. Gan will be presenting the study in January 2019.

Ecological Management: Ecological Management Supervisor, Marty Scholl provided a written report in the Board packet.

Biological Control: Fisheries Supervisor, Tony Hedley provided a written report in the Board packet.

Larval and Adult Control: Program Coordinator, Steve Ramos provided a written report in the Board packet. Garth Ehrke, discussed treatments including acreage for ground and air orders. Pastures were treated by ATV June through September. Wetlands and Duck ponds were treated by air. Technicians performed 33 positive dead bird responses and 44 positive mosquito pool sample responses in Yolo County. This season the Davis area was a hot spot for virus and abundance. A new experience for staff this year was the use of the UAS (drone) to treat duck ponds with about 715 acres treated using this method. Next year, staff expects to see more organic properties and cannabis farms, as well as a new tidal area in the southern tip of Yolo County. Demetri Dokos discussed South Sacramento County including Elk Grove, Sherman Island, Galt, Herald, and Wilton. Technicians treated agricultural sources, irrigated pastures, dairies and the Stonelakes and CRP wildlife areas. The UAS was used during spring run-off in the Cosumnes River area to identify areas that needed treatment with the airplane(s). Yellow jackets were down this year as compared to last year. Kevin Combo discussed North Sacramento County and showed a video of their activities and accomplishments. The video showed technicians in action, spraying fields, pastures, and inspecting and treating swimming

pools. Randy Burkhalter, discussed Catch Basins He supervised five full-time technicians with six to seven seasonal employees during the summer. Randy talked about Water Soluble packets that technicians make themselves, saving \$1 per packet. Last year they assembled 60,000 packets, this year they assembled 80,000 with the goal of getting up to 100,000 in the near future. Technician, Tim Gee, created a basin screen system that can be laid on the inside of the basin that doesn't cause any issues with leaves and debris in the basins allowing them to be treated better. Technicians tested new product efficacy in over 60 basins performing dips and treatments. Samples were retrieved from Woodland, downtown Sacramento, and Elk Grove to get as many types of samples and environments as possible in the basins. The department is in the last stages of converting photo-mapping from drawings to pdf in Photoshop and the project should be complete by next year. Almost 180,000 basins have been logged into the program.

GIS/IT: Ruben Rosas, GIS Coordinator reviewed his department responsibilities. Ruben reported that he obtained his remote pilot license for UAS operations and joined the Ecological Management Department on a visit to the NorCal Traffic Control center. He also discussed his attendance at meetings with several UAS software companies to evaluate them for their ability to produce accurate imagery and models. Ruben has used District data to produce heat maps that illustrate and analyze movement over time and he will be presenting on the subject at the upcoming conference. Dan Fisher, Information Technology Administrator discussed his department including security, visual gateway, and MapVision. Dan joined an information technology security association and has attended regional meetings. Membership in the association made the District eligible to join a data information center that stores data backups off site. This year password management software with two factor authentication was implemented, making us the first or second district to start such a program. A yearly training program in security best practices will be provided to staff. The Visual Gateway is a reporting system built on top of the Cal Surv Gateway that helps with statistics analysis. MapVision modules have been completed and staff training is ongoing. This year a seasonal helper was assigned to both GIS and IT helping with several activities during the busiest portions of the season. The District E-mail notification list has grown to 20,000 subscribers with the text notifications growing to 5,000 subscribers. Implementation of text messaging responses and notices reduced technician time to respond to phone calls. This was Dan's 2nd year as chair of the IT Committee with MVCAC and he is stepping down for 2019 but will still be a part of the committee. Dan will be presenting on security practices at MVCAC.

Public Outreach: Public Information Officer, Luz Robles provided a written report in the Board packet.

Shop: Tom Price, Shop Supervisor reported on his department. Tom started by commending his staff, Don Henson and Ben Weisenberg, on their abilities to assist staff in creating and fabricating in-house tools and equipment. His department assisted in the creation and assembly of the BG counter traps including the security cage built to house the unit. They also helped with the design and construction of the wind vanes with mounted mosquito traps on them. He also played a short video showing the process taken to do a complete overhaul of one of the District ATVs.

Administration: Janna McLeod, Administrative Manager reviewed her department including the recruitments and hiring as well as implementation of the new Sage accounting software with both payroll and time and attendance programs. The time and attendance portion is in the testing phase and paper timesheets will be eliminated some time during 2019. Samer Elkashef, Assistant Manager also reported on administrative duties commending all of the District staff on their team work with other departments on regular assignments and special projects. He

attended his first legislative days and has been working with staff on the Regulatory Committee. This year the Committee has focused on addressing cannabis issues as crops are now grown in both counties and throughout the state due to legalization. Lastly he discussed a grant submitted to the Department of Pesticide Regulation to expand the fisheries programs in an effort to reduce the District pesticide footprint. Staff will find out in March if the District will receive any funding.

4. BOARD/STAFF REPORTS AND REQUESTS

The MVCAC conference is in February and the AMCA conference is in March. Any Trustees who wish to attend please see staff to make arrangements.

Manager Goodman reported that the Farm bill passed, but, did not include the NPDES revisions. The Endangered Species Act will be the primary focus in the coming year.

Next month's packet will include the 5 year plan review as well as the 2019 Board Officer Elections.

5. ADJOURNMENT

The meeting adjourned at 11: 48 am.

* * * * *

I certify that the above minutes substantially reflect the general business and actions taken by the Board of Trustees at the December 18, 2018 meeting.

Gary Goodman, Manager

Approved as written and/or corrected by the Board of Trustees at the January 15, 2019 meeting.

Jayna Karpinski-Costa, Board Secretary

December 2018 Check Register
Activity From: 12/1/2018 to 12/31/2018
Sacramento Yolo MVCD (SYC)

Check Number	Check Date	Vendor Number	Name	Check
Bank	<u>U US Bank</u>			
052368	12/13/2018	0000504	US Bank	16,828.80
052369	12/17/2018	0001056	Airbus Aerial	9,125.00
052370	12/17/2018	0000014	Alhambra & Sierra Springs	206.09
052371	12/17/2018	0000018	ANDKO Building Maintenance Inc.	2,777.94
052372	12/17/2018	0000036	Awards by Kay	196.47
052373	12/17/2018	0000038	Bartkiewicz Kronick & Shanahan	1,000.00
052374	12/17/2018	0001011	Buckmaster Office Solutions	121.62
052375	12/17/2018	0001052	Carlos Mejias Curbside Kitchen	1,072.50
052376	12/17/2018	0001019	Cintas Corporation	1,719.18
052377	12/17/2018	0000117	City of Woodland	405.22
052378	12/17/2018	0000119	Clarke Mosquito Control Products Inc	25,480.99
052379	12/17/2018	0000126	Complete Welders Supply Inc	883.14
052380	12/17/2018	0000128	Consolidated Communications	2,679.86
052381	12/17/2018	0000154	DBA Yolo Smog	279.65
052382	12/17/2018	0000184	Elk Grove Lock and Safe Company	140.02
052383	12/17/2018	0000186	Elk Grove Water District	521.06
052384	12/17/2018	0000956	Employee Benefits Law Group	1,350.00
052385	12/17/2018	0000200	Fastenal Company	137.31
052386	12/17/2018	0000202	Ferrellgas	21.00
052387	12/17/2018	0000240	Hunt & Sons Inc	1,430.55
052388	12/17/2018	0000277	Kimball Midwest	600.74
052389	12/17/2018	0000306	Maita Chevrolet	22.23
052390	12/17/2018	0000356	OReilly Automotive Stores Inc	181.13
052391	12/17/2018	0000367	PG & E	1,773.67
052392	12/17/2018	0000370	Pitney Bowes	313.49
052393	12/17/2018	0000388	Republic Services #922	33.97
052394	12/17/2018	0000429	Sage Software	5,117.50
052395	12/17/2018	0000448	Sigma-Aldrich Inc	355.63
052396	12/17/2018	0000451	SMUD	3,091.06
052397	12/17/2018	0000454	Spark Creative Design	6,638.75
052398	12/17/2018	0000937	Staples Business Advantage	647.47
052399	12/17/2018	0000462	Sterling May Co	202.50
052400	12/17/2018	0000972	Tender Corporation	39,306.33
052401	12/17/2018	0000497	TriCo Welding Supplies	156.68
052402	12/17/2018	0000505	US Bank Equipment Finance	102.36
052403	12/17/2018	0000518	Vector Disease Control International	50,000.00
052404	12/17/2018	0000522	Verizon Wireless	3,396.28
052405	12/17/2018	0000529	Waste Management	405.32
052406	12/17/2018	0000543	Yolo County Environmental Health	1,305.00
052407	12/17/2018	0000267	Kaiser Foundation Health Plan	20,994.55
052408	12/17/2018	0000267	Kaiser Foundation Health Plan	1,447.90
052409	12/17/2018	0000267	Kaiser Foundation Health Plan	2,171.85
052410	12/17/2018	0000267	Kaiser Foundation Health Plan	16,482.86
052411	12/17/2018	0000357	P & A Administrative Services Inc	126.00
052412	12/17/2018	0000373	Preferred Benefit Ins Administrators	8,300.20
052413	12/17/2018	0000957	Sutter Health Plus	4,240.06
052414	12/17/2018	0000531	Western Health Advantage	7,743.37
052415	12/17/2018	0000531	Western Health Advantage	5,081.44
052416	12/31/2018	0000043	Benefit Coordinators Corporation	3,314.14
052417	12/31/2018	0000084	CA State Disbursement Unit	694.00
052418	12/31/2018	0000084	CA State Disbursement Unit	350.00
052419	12/31/2018	0000339	Nationwide Retirement Solutions	1,300.00

December 2018 Check Register

2

052420	12/31/2018	0000339	Nationwide Retirement Solutions	3,375.00
052421	12/31/2018	0001035	Operating Engineers Local Union No. 3	1,260.00
052422	12/31/2018	0000504	US Bank	20,295.64
W00064	12/31/2018	0000086	CalPERS 457 Plan	22,126.35
W00065	12/31/2018	0000087	CalPERS Financial Reporting & Accounting	73,493.13
W00066	12/31/2018	0000176	EDD	15,038.39
W00067	12/31/2018	0000561	United States Treasury	51,767.82
Bank U Total:				<u>439,629.21</u>
Report Total:				<u><u>439,629.21</u></u>

I hereby authorize the use of my signature plate on
the above-listed warrants, 052368-052422, and EFTs W00064-W00067

Signature

Date

Susan Maggy, President of the Board

S.Y.M.V.C.D
FY 2018-2019 Budget Update
December 2018

	Account #	Account Description	6 Months Ended December 31, 2018	Annual Budget	Unused
T	4000	REVENUE	\$ -	\$ -	\$ -
T	5000	SALARIES/BENEFITS/WC	\$ 4,299,314.53	\$ 8,056,523.70	\$ 3,757,209.17
T	5200	OPERATIONAL	\$ 4,059,429.93	\$ 5,433,364.00	\$ 1,373,934.07
T	5210	LIABILITY INSURANCE	\$ 126,922.00	\$ 136,922.00	\$ 10,000.00
T	5250	AUDITING/FISCAL	\$ 13,000.00	\$ 15,500.00	\$ 2,500.00
T	5270	COMMUNICATIONS	\$ 38,198.80	\$ 79,500.00	\$ 41,301.20
T	5310	PUBLIC INFORMATION	\$ 199,108.16	\$ 434,800.00	\$ 235,691.84
T	5340	STRUCTURE & GROUNDS	\$ 24,911.10	\$ 65,000.00	\$ 40,088.90
T	5370	MEMBER/TRAINING	\$ 49,350.64	\$ 113,000.00	\$ 63,649.36
T	5390	DISTRICT OFFICE EXPENSES	\$ 4,929.19	\$ 15,000.00	\$ 10,070.81
T	5430	PROFESSIONAL SERVICES	\$ 67,306.35	\$ 139,200.00	\$ 71,893.65
T	5440	MATERIALS & SUPPLIES	\$ 5,068.58	\$ 10,000.00	\$ 4,931.42
T	5450	RENTS & LEASES	\$ 5,271.78	\$ 8,750.00	\$ 3,478.22
T	5470	SAFETY PROGRAM	\$ 600.00	\$ 5,000.00	\$ 4,400.00
T	5480	UTILITIES	\$ 43,301.87	\$ 100,000.00	\$ 56,698.13
T	6120	AIRCRAFT SERVICES	\$ 591,067.05	\$ 809,297.00	\$ 218,229.95
T	6140	ECOLOGICAL MANAGEMENT	\$ 1,412.87	\$ 17,600.00	\$ 16,187.13
T	6160	MICROBIAL	\$ 977,575.10	\$ 1,336,000.00	\$ 358,424.90
T	6170	BIORATIONALS (Formerly IGR)	\$ 675,905.05	\$ 902,620.00	\$ 226,714.95
T	6180	INSECTICIDES	\$ 1,007,261.73	\$ 765,000.00	\$ (242,261.73)
T	6220	FISHERIES	\$ 6,616.55	\$ 24,990.00	\$ 18,373.45
T	6280	GEOGRAPHIC INFO SYSTEMS	\$ 3,056.75	\$ 6,925.00	\$ 3,868.25
T	6320	INFORMATION TECHNOLOGY	\$ 11,054.41	\$ 31,450.00	\$ 20,395.59
T	6350	CONTROL OPERATIONS	\$ 6,074.14	\$ 28,710.00	\$ 22,635.86
T	6370	SHOP	\$ 57,671.12	\$ 88,000.00	\$ 30,328.88
T	6420	LAB SERVICES	\$ 66,359.84	\$ 156,600.00	\$ 90,240.16
T	6450	GAS & PETROLEUM	\$ 77,406.85	\$ 143,500.00	\$ 66,093.15
T	7000	CAPITAL ACCOUNTS	\$ 105,713.59	\$ 414,000.00	\$ 308,286.41
T	7011/1510	Capital Outlay/Construction In Progress	\$ 105,713.59	\$ 204,000.00	\$ 98,286.41
T	7030	Research Fund	\$ -	\$ 50,000.00	\$ 50,000.00
T	7035	Building Improvement	\$ -	\$ 160,000.00	\$ 160,000.00
T		TOTALS			
T		Salaries/Benefits	\$ 4,299,314.53	\$ 8,056,523.70	\$ 3,757,209.17
T		Operational	\$ 4,059,429.93	\$ 5,433,364.00	\$ 1,373,934.07
T		Capital Accounts	\$ 105,713.59	\$ 414,000.00	\$ 308,286.41
T		Total Budget	\$ 8,464,458.05	\$ 13,903,887.70	\$ 5,439,429.65

Sacramento-Yolo Mosquito & Vector Control District Annual Safety Report 2018

Committee Members for the year 2018

Operations	Paula Matney Kellee Prasad Nick Ascarrunz	Laboratory Administration North Sacramento Field
	Phillip Merritt Operations Jake Vigna Jay Geigle Vincent Luu Don Henson Samer Elkashef	South Sacramento Field Yolo Field Operations Catch Basin Crew Fisheries Shop Safety Officer

EXECUTIVE SUMMARY

The mission of the District Safety Program is to provide a forum for employees to voice their concerns regarding safety issues. This goal is accomplished through the monthly meetings of the Safety Committee and subsequent discussions among District employees regarding the issues brought up in the meetings. The Committee is comprised of various representatives of the different departments. The meetings are usually held the second Tuesday of each month. The agendas include a review of safety suggestions, accidents, and analysis of facility or job inspections. The Safety Manual is reviewed in its entirety by District personnel once every three years. The District sent the Safety Manual to Bickmore Risk Services for recommendations that are being integrated. The District feels that these reviews are critical in the process of keeping our employees current with any changes to safety regulations. Safety is a primary concern of the District and the Committee helps enhance the program.

The Safety Program experienced a 24% decrease in reported accidents in 2018 compared to 2017 (16 vs 21). The number of accidents for 2018 (16) is below the 5 year running average of 20 accidents per year. The District experienced a slight increase in the number of safety suggestions in 2018 compared to 2017 (6 vs 5). The District and Safety Committee will make a continued effort to educate the employees on the importance of safety in the workplace for 2019. The table below summarizes the general statistics of the Safety Committee Program.

	2018	2017	2016	2015	2014	2013	5 YR AVG
Safety Suggestions	6	5	8	7	10	6	7
Accidents	16	21	18	25	21	16	20

The goals of the Safety Committee for the 2019 calendar year include:

- Continue to review and update the Safety Manual.
- Implementation of revisions recommended by Bickmore Risk Services
- A reduction in the number of workplace accidents compared to 2018.

- District wide promotion of the safety program through the safety suggestion component and incorporation of suggestions that augment safety at the District.

SAFETY PROGRAM OVERVIEW

The following is a review of the District's Safety Program that occurs annually for all employees. The complete program can be reviewed in one of the District Safety Manuals.

Hazard Evaluation and Code of Safe Practices

The District has identified work functions and equipment that could pose a safety hazard to employees. These items are listed in the Safety Manual along with mitigating measures to prevent accidents. The functions are updated regularly as new equipment or tasks are added. All new employees are trained on these items at the time of hire as well as reviewed on a regular basis.

Task Training

District employees are required to be task trained on all work activities to which they will be assigned. Review training is provided on an as needed basis. Training is provided by a District supervisor or another employee competent with the task and assigned to do the training by the supervisor. Examples of these tasks include: source inspection, pesticide application, sprayer functionality, chainsaw use and vehicle use.

Equipment/Tool Review

Each supervisor is responsible for a particular building within the facility. Supervisors provide an annual safety review of all the equipment and power tools that are used by employees as refresher training. They are also required to inspect buildings for safety hazards.

Hearing Conservation

Supervisors take annual decibel readings of equipment located in their assigned areas and list all equipment that exceeds 80 decibels. Employees are required to use ear protection when

using equipment on the list. Employees are trained annually on the effects of long term hearing damage.

Fire Safety

New employees are trained on the use of fire extinguishers and evacuation routes at the time of hire. Evacuation routes are posted and reviewed by employees on a yearly basis.

Heat Illness

District uses OSHA training materials yearly to inform employees of the signs and symptoms of heat illness as well as the personal/environmental factors that contribute to heat illness. Training and reminders are provided three times per year and/or as needed during the season.

Bi-Weekly Tailgates

Supervisors review pertinent safety topics with employees in informal training sessions every two weeks. Safety topics include driving, personal safety, heat illness, dog bite avoidance and PPE use.

Driver Training

Driver's training is provided to employees on an annual basis. Formal training fluctuates between computer one year and classroom and behind the wheel instruction the next year.

Pesticide Safety

Pesticide training is required on a yearly basis each spring. Employees are trained on the safe use and toxicological profile of every product used by the District. Along with the annual training, pesticide safety training is reinforced during tailgate sessions, equipment reviews and initial task training to emphasize its importance.

SAFETY TRAINING TOOLS UTILIZED BY THE DISTRICT

The District utilizes an assortment of training platforms for employees, including; outsourced professionals, webinars, DVDs/videos and online classes. The following is a summary of the formats used in recent years.

Professional Safety Trainers

Bickmore Risk Services (BRS) are safety consultants that have provided the District with classroom and behind the wheel driver training over the past several years. In 2018 we had live training for CPR training and behind the wheel training.

Pesticide Industry

Representatives of Sacramento County Agricultural Commissioners Office, Valent BioSciences, Central Life Sciences, Adapco, Clarke Mosquito Control and Univar have provided pesticide use and safety training to staff.

Public Safety

Members of the Sacramento County Sheriff's Department and Elk Grove Police Department have provided staff with personal safety and awareness training. Cosumnes Community Services District Fire Department staff has provided the District with a Fire Safety Session.

Webinar

District supervisors and employees have participated in various webinar training sessions over the years.

DVDs / Videos and Online Courses

The District maintains an in-house library of training media and access to an online library of streaming videos to be used to satisfy safety training requirements. Supervisors have staff watch an assortment of films yearly to supplement verbal trainings.

ACCIDENTS / INJURIES 2018

There were 16 reported accidents/incidents throughout the District in 2018. This represents an overall decrease from last year. The table below summarizes the breakdown of reported accidents/incidents over the years:

	2018	2017	2016	2015	2014	2013
District Vehicles	11	11	11	15	11	4
Cuts and Abrasions	0	3	2	4	2	6
Strains and Irritations	3	5	4	5	7	4
Pesticide Spills	1	0	0	1	0	0
Other	1	2	1	0	1	2
Total	16	21	18	25	21	16

In 2018 the level of vehicle accidents remained steady compared to the previous two years. As always, the Safety Committee will continue to remind everybody to pay more attention and be more careful while driving vehicles to bring down this number. The Safety Committee also reviewed all accidents and noticed a decrease in personal injuries (cuts, abrasions, strains, and irritations) in 2018 as compared to 2017 (3 vs 8). The Safety Committee will continue to stress the importance of workplace safety and will look for ways to promote the safety program for 2019.

HAZARD EVALUATIONS & AUTHORIZATION LISTS

The 2018 year has seen the continuation of updates to the Safety Manual, with a goal of making the manual more “user friendly” without compromising safety goals. The staff continues to process and file the paperwork as quickly as possible. The specific areas of the Safety Manual that were reviewed by the employees in 2018 were:

- Job Safety Class Hazard Evaluation & Code of Safe Practices
- Vehicle Safety Program/Vehicle Hazard Evaluation & Code of Safe Practices
- Training Program

- Safety & Protective Equipment

Each department reviews a section of the Safety Manual each quarter and submits suggestions for changes to the Safety Committee. This program allows each of the sections of the safety manual to be reviewed by all staff once every three years. This is a great training tool for staff to be reminded of the purpose of the Safety Manual and to get clarification of any issues.

JOB SAFETY CLASS INSPECTIONS 2018

The job safety class inspections are opportunities for the individual departments to discuss the hazards of their particular job classifications with their employees. The supervisor will identify the different components of the job as outlined in the inspection form and solicit input from their employees for changes/modifications to the job safety class. This exercise is an opportunity to formalize reminders to all employees about the potential safety hazards that they face during the execution of their work.

Job Safety Class Inspection completion schedule for 2018

<u>FACILITY</u>	<u>COMPLETED</u>
Administration	July & December
Control Operations - North Sacramento	February & December
Control Operations - South Sacramento	February & November
Control Operations - Catch Basin	February & December
Control Operations - Woodland	April & December
Ecological Management	May & December
Laboratory	July & December
Vehicle	April & December

FACILITY INSPECTIONS 2018

Facility inspections are scheduled twice a year and include two members of the safety committee doing a walk through of each building within the District facility. The two members will identify compliance or areas of improvement. The supervisor in charge of that particular building will then rectify anything identified by the inspection and report back to the safety committee.

The following table summarizes the inspections completed in 2018.

<u>FACILITY</u>	<u>Completed</u>	<u>2018 SAFETY RATING</u>
Administration	January	100%
	November	100%
Fisheries	March	100%
	December	100%
Laboratory	January	100%
	November	100%
Mechanic Shop	May	100%
	December	98%
Old Shop	March	100%
	December	100%
Pesticide Storage	May	100%
	December	100%
Pole Barn	May	100%
	October	100%
Woodland	March	100%
	December	100%

SAFETY SUGGESTIONS FOR 2018

In 2018, the District received a total of 6 suggestions, compared to 5 suggestions in 2017. The Safety Committee and Management continue to encourage employees to make

suggestions. The Committee would still like to see the participation increase. District wide promotion of the safety program and its incentives will continue to be a goal for 2019.

SAFETY INCENTIVE AWARDS PROGRAM

The District's goal is to maintain a safe work environment with the expectation that all District employees are to be safety conscious and to encourage employee contribution to a safe working environment.

Each calendar year the District will draw safety teams at random using all regular full time employees. One point will be awarded to each team member at the end of each quarter assuming that the team has qualified. A qualifying team has all members that have followed safety policies for the quarter. A point may not be awarded to the team members for the quarter if one or more of the team members have violated a safety policy resulting in an accident or near miss. The District safety committee reviews all accident reports to make the determination whether points shall or shall not be awarded to the team. Individual employees may also acquire points by submitting qualifying safety suggestions or by serving on the District safety committee to be awarded at the completion of term served. Each employee may accrue a maximum of 10 points. When 10 points are accumulated by any employee no additional points may be added to that employee's total. Points may be redeemed for gift cards from an assortment of retail outlets after the end of each quarter.

WORKERS COMPENSATION COSTS

The District will be reporting the annual loss run and financial activity for 2018 as well as comparing to previous years numbers as soon as the data is available from our Workers Compensation provider.

Sacramento-Yolo Mosquito and Vector Control District

January 15, 2019 Board Meeting

3. Reports to the Board

- a. Manager's Report**
- b. Reports from District Departments**
 - **Lab/Surveillance (Marcia Reed)**
 - **Ecological Management (Marty Scholl)**
 - **Biological Control (Tony Hedley)**
 - **Larval and Adult Control (Steve Ramos)**
 - **Field Supervisor (Mike Fike)**
 - **Public Outreach (Luz Maria Robles)**

a. Manager's Report

District staff is taking earned vacation time and completing annual training during this time of year. Staff is working on the annual NPDES report that will be due to the SWRCB in March.

The MVCAC Annual Conference in Burlingame will be held February 3-6.

Please be advised that you will need to submit your Conflict of Interest Form 700 prior to April 2018. The District will provide you with the Form 700 and we need to date stamp the Form when you return it. Please submit the Form as soon as possible.

b. Reports from District Departments

- **Lab/Surveillance (Marcia Reed)**
- **Ecological Management (Marty Scholl)**
- **Biological Control (Tony Hedley)**
- **Larval and Adult Control (Steve Ramos)**
- **Field Supervisor (Mike Fike)**
- **Public Outreach (Luz Maria Robles)**

Christmas Bird Count

Sacramento-Yolo Mosquito and Vector Control District

Elk Grove, CA

January 4, 2019; 7:30am – 9:00am

Weather: Cold and clear

Total Species: 44

Observers: Mary Scheidt and Sarah Wheeler

Species	Count	Species	Count
Canada Goose	10	Northern Flicker	6
Cinnamon Teal	1	Black Phoebe	8
Mallard	48	California Scrub-Jay	4
Common Goldeneye	5	American Crow	17
Barrow's Goldeneye	1	Tree Swallow	3
Hooded Merganser	1	Bushtit	50
Pied-billed Grebe	2	Marsh Wren	1
Mourning Dove	19	Ruby-crowned Kinglet	12
Anna's Hummingbird	140	Western Bluebird	4
Sora	1	American Robin	18
Common Gallinule	2	Northern Mockingbird	2
American Coot	5	House Finch	11
Killdeer	1	Savannah Sparrow	1
Greater Yellowlegs	5	Fox Sparrow	1
Unidentified gull	5	Song Sparrow	2
Double-crested Cormorant	4	Lincoln's Sparrow	11
Great Blue Heron	1	White-crowned Sparrow	4
Great Egret	8	Golden-crowned Sparrow	8
Snowy Egret	16	Brewer's Sparrow	5
Green Heron	2	Orange-crowned Warbler	3
Red-shouldered Hawk	1	Yellow-rumped Warbler	200
Belted Kingfisher	1	Total species	44
Nuttall's Woodpecker	3	Total birds	653

LABORATORY

Monthly Report for January 2019 Board Meeting

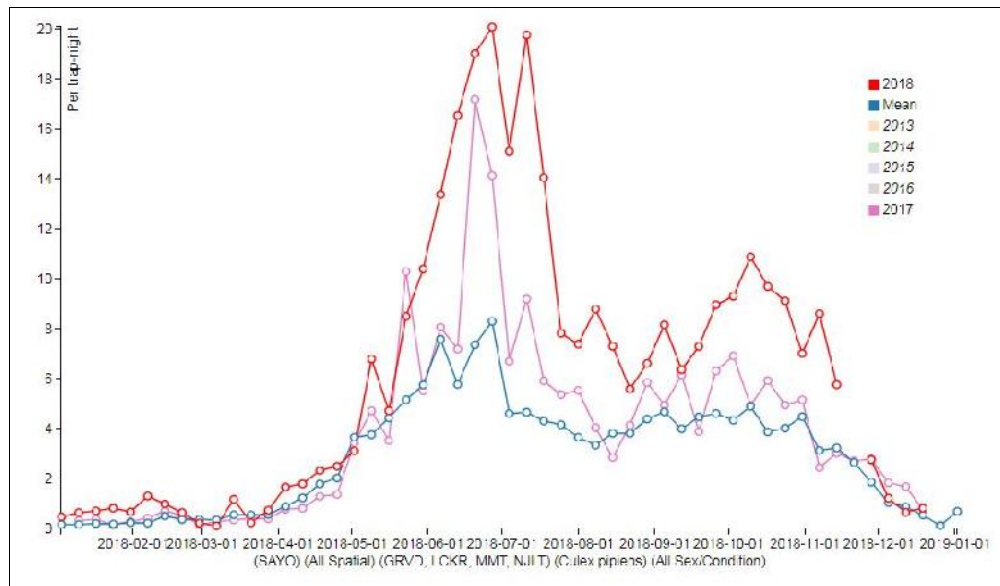
Insectary:

Colonies maintained: *Culex tarsalis* Bakersfield from CDC (susceptible)
Culex tarsalis Kern National Wildlife (susceptible)
Culex quinquefasciatus Cq1 (susceptible)
Culex pipiens Woodland (resistant)
Culisita incidens wild - Sacramento County
Aedes sierrensis wild
Culex tarsalis Conaway Ranch - wild

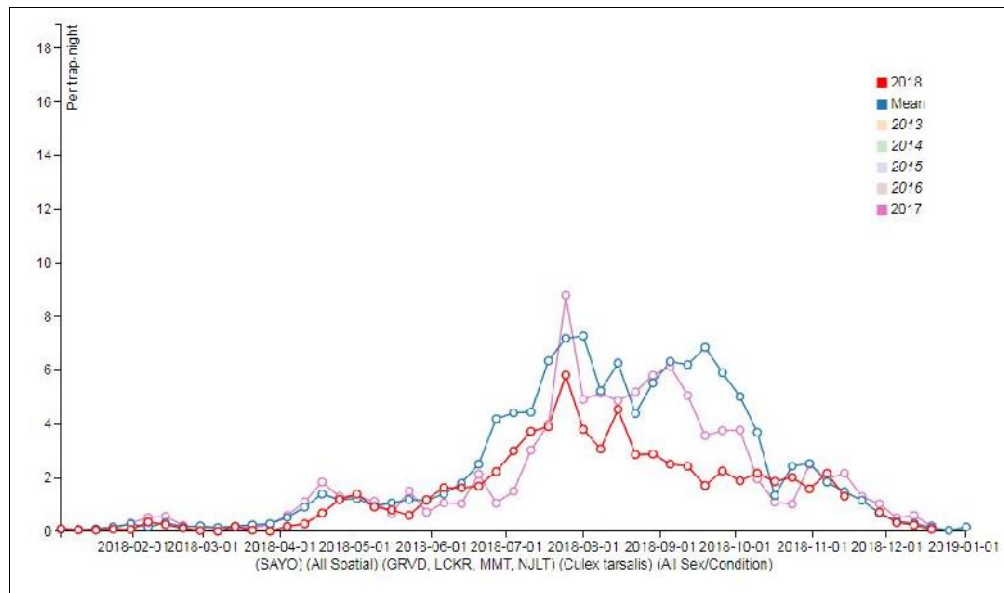
Surveillance:

- **Weekly collections** – New Jersey Light traps (NJLTs), Mosquito Magnet traps (MMTs), Locker CO₂ Traps (LCKRs) and Gravid traps (GTs) results are presented in the graphs below. *Cx. pipiens* and *Cx. tarsalis* trap counts are low in the weekly abundance traps, and following the usual winter activity levels.

Culex pipiens on abundance traps (NJLT, MMT, LCKR, GT):

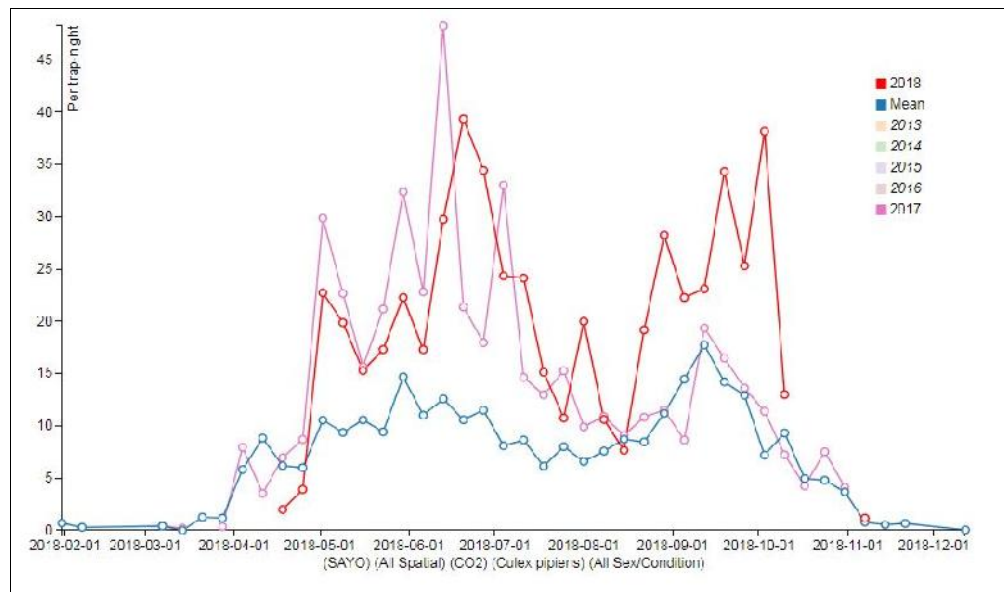


Culex tarsalis on abundance traps (NJLT, MMT, LCKR, GT):



- **Encephalitis virus surveillance (EVS) –**

Culex pipiens on CO₂ traps: The graph shows that we had much higher abundance in these traps this season for this species.



Culex tarsalis on CO₂ traps: The graph shows that we had slightly higher abundance for most of the mosquito season in our traps compared to the 5 year average.

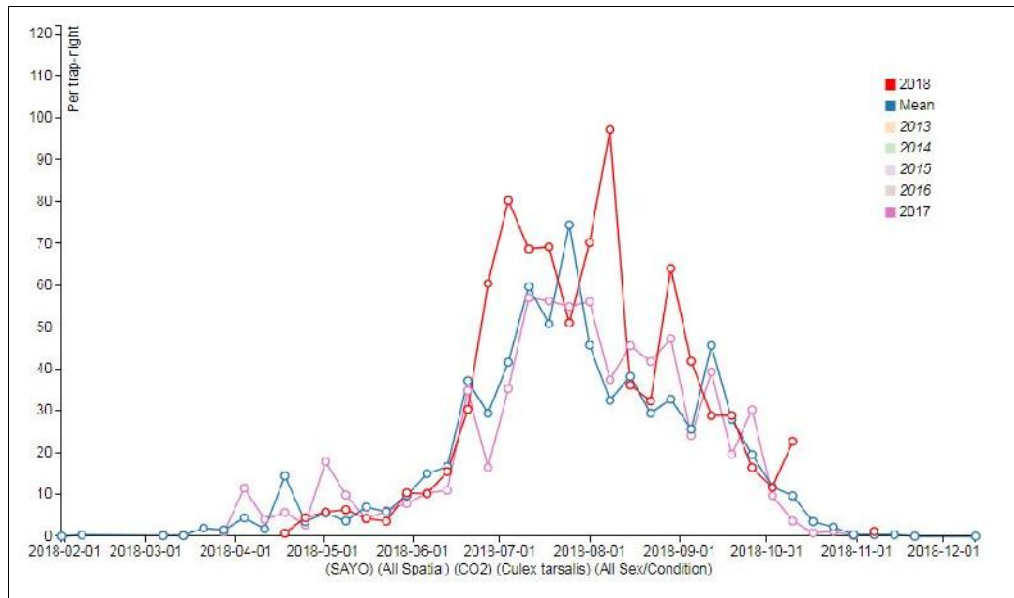


Table – Number of positive dead birds, positive pools and total tested: 2015 to 2018

	2018	2017	2016	2015
+ Dead birds	282	100	490	164
+ Mosq pools	390	240	714	337
Mosq. pools tested	6,951	7103	8245	7270

Sentinel chickens – We had at least one chicken seroconvert for West Nile virus in the flocks located at Gibson Ranch, Isleton, Dunnigan and Knights Landing. The Rancho Murieta flock did not have any chickens test positive. We plan on continuing our sentinel chicken flock surveillance at these same sites in the upcoming season.

Exotic/Invasive Species Surveillance –We plan on modifying our surveillance efforts in this program. We are evaluating the different methods used in locations that have the invasive *Aedes* mosquitoes and determining what would be the most efficient and effective use of District resources.

Tick and Lyme disease surveillance – Tick flagging has begun at 20 different sites for this season. The initial round of testing of *Ixodes pacificus* tick pools (samples) collected in

December has yielded 2 positive pools from the Nimbus Dam overlook site in Sacramento County. 70 pools (261 individual ticks) were tested in total this month.

BG Counter Traps – We plan on utilizing these traps again for our adult mosquito surveillance in our rice field areas. In addition we will locate a few traps in other areas of interest.

Mosquito Resistance Testing – We are continuing to plan to perform assays this winter once the required colonies are at the optimal levels for their use.

Non-WNV Disease Response Surveillance – We have been notified of one non-WNV disease cases this month. It was a malaria case and traps were set but no *Anopheles* mosquitoes were found.

District Studies –

Suspend Polyzone study – Results of this study will be presented at the MVCAC annual meeting in 2019.

Collaborations –

Rice Residue study – Dr. Gan from UC Riverside will be presenting results from this study at the Center of Excellence meeting at UC Davis on January 23rd and 24th. We will also be discussing with Dr. Gan plans for this upcoming season.

WDG WALs study – Results of this study will be presented and the upcoming MVCAC and AMCA annual meetings.

kdr in *Cx tarsalis* – Dr. Thieman's lab is continuing their analysis of our mosquitoes.

BioGents REMOSIS Project – We have been informed that the trap is still being modified based on this past season's experiences, and that we should have the opportunity to work with the newer version next season.

Additional Projects – The DeltaGard truck ULV study will be presented at the MVCAC annual meeting.

California Arbovirus Surveillance Bulletin #35 Week 50 Friday, December 14, 2018

2017 & 2018 YTD West Nile Virus Comparisons		
	2017	2018
Total # Dead Bird Reports	7,629	8,090
# Positive Counties	47	41
# Human Cases	502	203
# Positive Dead Birds / # Tested	505 / 2,005	499 / 2,189
# Positive Mosquito Pools / # Tested	3,371 / 44,377	1,963 / 42,110
# Seroconversions / # Tested	305 / 11,029	163 / 10,162

YTD WNV Activity by Element and County, 2018					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Alameda			20	15	
Amador	1	1			
Butte	11		4	48	37
Colusa					6
Contra Costa	4		13	17	16
El Dorado			2		
Fresno	11			119	
Glenn	2			4	
Humboldt	1		1		
Imperial				1	
Kern	12	1	1	48	
Kings				22	
Lake	1			4	1
Los Angeles	43		19	75	30
Madera	3			55	
Merced	2	2		12	16
Monterey	1				
Napa	1				
Nevada	1				
Orange	9		16	96	
Placer	9	1	44	230	4
Riverside	14		6	36	
Sacramento	13	3	241	300	5
San Benito					1
San Bernardino	7			12	
San Diego	1		1	3	
San Joaquin	13	1	16	533	
San Mateo			5	2	
Santa Clara	1		56	5	8
Santa Cruz			2		
Shasta	1	1	5	8	4
Solano				3	7
Sonoma				1	
Stanislaus	15	1	1	111	
Sutter	1		4	28	20
Tehama	2				1
Tulare	8			77	
Tuolumne	1		1		
Ventura	2				
Yolo	10		41	90	5
Yuba	2			8	2
Totals	203	11	499	1,963	163

ECOLOGICAL MANAGEMENT DEPARTMENT
Monthly Report for the January 2019 Board Meeting

Storm Water / Drainages Program

California State Water Resources Control Board(SWRCB): The SWRCB released the Final Draft of the State Wetland Definitions and Procedures for Discharges of Dredged or Fill Material to Waters of the State for public review. Staff is in the process of reviewing the proposed language for any changes that could have an impact to District and Department operations. The Draft Definitions and Procedures are not expected to greatly impact District operations including Department BMP projects.

US Bureau of Reclamation (Reclamation): Staff is working with Reclamation to finalize a comprehensive mosquito control plan for their Delta Cross Channel property located near Locke. The plan will include all larvicide treatments, as well as select adulticide applications. A mock ULV application plan was developed and submitted to Reclamation to help give a realistic West Nile virus response plan.

UAS Program

Staff conducted a District pilot proficiency and flight training exercise to stay updated on current UAS flight software and current FAA Safety standards. The exercise focused on maintaining control of the aircraft in unknown or emergency situations.

Staff has begun to update all operating binders, creating a separate operating procedure specific to each UAS unit and its specific uses. Each binder includes all flight and maintenance records, licensed pilots, Operating Manual, and individual waiver or permits among other pertinent information.

Along with updating each individual UAS unit's operating binder, the department is also re-evaluating the UAS Operations Manual and updating it to include relevant operations including UAS applications, and land surveying.

Marty Scholl will be moderating an hour long UAS symposium at the annual MVCAC conference including a UAS industry panel discussion on current UAS photogrammetry and surveying applications as they relate to mosquito control.

BIOLOGICAL CONTROL

Monthly Report for January 2019 Board Meeting

In the month of December the Fisheries Department has made numerous improvements to essential daily tasks. These improvements include servicing fish feeders, replacing water valves and repairing aerators on the inside tanks. The month of December has been relatively dry requiring the use of the deep well system to keep water levels at desired depths and to add clean water to ponds. The grant proposal for the Department of Pesticide Regulations Pest Management Research Grant program has been finished and submitted. All grant proposals are being reviewed and notifications will go out in March. The Fisheries Department also continues to conduct maintenance around the facility including cleaning and organizing work trucks, utility vehicles and cleaning the fisheries building. Tony Hedley will be giving a talk and the 2019 MVCAC meeting in Burlingame.

0.9 pounds of fish were used in the month of December with a running total for the year at over 2277 lbs. Daily activities such as water quality testing, medical treatments and tank cleaning were also performed to maintain high quality fish.

Log of Treatment Applied

<u>Material</u>	<u>AMT</u>	<u>Area Treated</u>	<u>Applic Rate</u>	<u>Treatments</u>
Mosquitofish	0.9 lbs	2+ Acres	0.1 lb/acre	2
Guppies	0 lb	0 Sqft	lb/acre	0

Fish Plants by Crew

Fisheries-0 lbs, North Sac-0.4 lbs, South Sac-0.5 lbs, Yolo-0 lbs

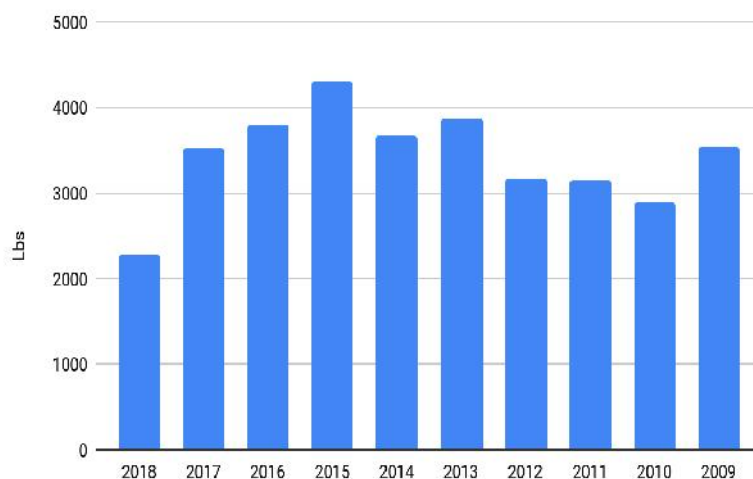
Fisheries Budget

<u>Total</u>	<u>Spent</u>	<u>Remaining</u>	<u>% Spent</u>
24,990.00	7,490.91	17,499.09	30%

Running total of fish usage for 2018

Fisheries- 1683.45 lbs, North Sac-336.8 lbs, South Sac-120.07 lbs, Yolo-136 lbs, Eco-.7

Lbs per year



3514.97	10 yr average
3516.95	5 yr average

CONTROL OPERATIONS

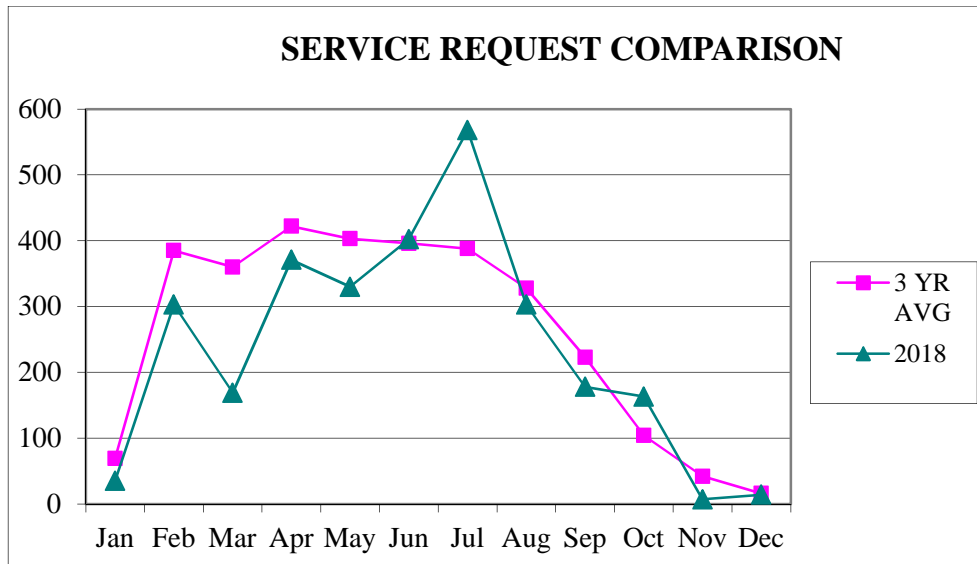
Monthly Report for January 2019 Board Meeting

Control Operations staff are using the winter months to get ready for the 2019 Season. Staff has been performing typical winter activities around the property such as yard work, facility maintenance, winterizing vehicles. A few of the larger in house projects that have been completed are the relocation of the empty pesticide storage to the pole barn and installing racks in the pesticide room to optimize space and organization. Yolo and Sacramento Control staff has been busy assembling water soluble packets to be used in catch basins and swimming pools this upcoming season. Crews are also working off site completing various brush cutting projects. Service requests numbers are down which is typical for this time of year.

Pesticide Room Before



Pesticide Room After



Larvicide Applications thru December 31st				
	<u>2018</u>		<u>2017</u>	
<u>Locations/Roles</u>	<u>Treatments</u>	<u>Acres</u>	<u>Treatments</u>	<u>Acres</u>
Sacramento County	7,431	7,694	6,476	5,951
Sac County Aerial	24 Orders, 377 Sources	23,571	21 Orders, 204 Sources	6,980
Yolo County	2,474	15,260	2,410	9,967
Yolo County Aerial	91 Orders, 1,246 Sources	127,915	79 Orders, 841 Sources	87,456
CB Treated	158,026	--	155,424	--
CB Inspected -not treated	179,689	--	176,425	--

Aerial Adulticide Summary thru December 31st				
	<u>2018</u>		<u>2017</u>	
<u>County</u>	<u># Applications</u>	<u>Acres</u>	<u># Applications</u>	<u>Acres</u>
Sacramento Ag	20	88,917	13	42,312
Sacramento Urban	6	83,286	0	0
Yolo Ag	73	459,636	77	492,820
Yolo Urban	0	0	0	0
Totals		631,839		535,132

VDCI Summary through January 31st, 2018

compared to: 2017

Contract Acres (our portion) =	530,000	530,000
Acres used =	631,839	535,132
Acres remaining =	(101,839)	(5,132)
% Acres used =	119.2%	101%
% Acres remaining =	0%	0 %

San Joaquin County MVCD has used 281,331 acres of their 190,000 acre contract commitment.
Placer MVCD has used 145,762 acres of their 100,000 acre commitment.
Turlock MAD has used 179,562 acres of their 180,000 acre commitment.

PUBLIC INFORMATION AND EDUCATION
Monthly Report for January 2019 Board Meeting

Fight the Bite Contest

In preparation for the contest we have started working with our graphic designer to make changes to the contest flier so they can be disseminated for approval to the various school districts. Once the flier is approved, copies will be made and mailed out to individual schools.

The contest will also be promoted at all upcoming presentations and via social media. We will also reach out to previous contest participants and school or teachers that have participated in previous years.

Events:

We have started getting information and started the registration process for the 2019 event season. The first two events that we will attend this season will be Galt Bird Festival scheduled for February 2nd and Duck Days in the Vic Fazio wetlands on February 23rd. Both of these are great events because they attract many outdoor and bird enthusiasts that are very interested in our District programs, specifically effects of West Nile virus in the bird population. New in 2019 will be the use of iPads at the booth to take service requests from guests or sign up residents for spray notifications.

Advertising:

While it is still very early in the planning stages for the 2019 advertising season, District staff is currently meeting with account executives and media representatives to begin looking at various options for the 2019 advertising campaign.

Presentations:

Classroom presentations are currently being scheduled. We are promoting the presentations on social media and reaching out to schools and teachers where we have done presentations in the past.

The District Public Information Officer, Luz Maria Robles, will be presenting a talk at the annual MVCAC meeting titled “Responding in Real Time to Elevated Levels of West Nile Virus in Specific Communities” based on the new event structure that was started during the 2018 season.

Sacramento-Yolo Mosquito and Vector Control District

January 15, 2019 Board Meeting

4. Board Consideration and Approval of District Officers for President, Vice President, and Secretary and Delegating the Manager to Perform Responsibilities of the Secretary

Staff Report:

The following is an excerpt from existing law:

2027. (a) At the first meeting of the initial board of trustees of a newly formed district, **and in the case of an existing district at the first meeting in January every year** or every other year, the board of trustees shall elect its officers.

(b) The officers of a board of trustees are a president and a secretary. The president shall be a trustee. The secretary may be either a trustee or a district employee. A board of trustees may create additional officers and elect members to those positions. No trustee shall hold more than one office.

In addition, the Board passed Resolution 1-19-10B (enclosed) that defines the Rules and Proceedings for District Board meetings.

Pursuant to Resolution 1-19-10B the current officers of the Board are President, Vice President, and Secretary. The Board may delegate the authority to perform responsibilities of the Secretary to the Manager.

2018 Officers

President – Susan Maggy

Vice President – Ray LaTorre

Secretary – Jayna Karpinski-Costa

Recommendation:

Pleasure of the Board

Sacramento-Yolo Mosquito and Vector Control District

January 15, 2019 Board Meeting

5. Board Review of the District's 5-Year Plan

Staff Report:

In January of 2015, the Board was presented with a 5-year plan to examine the District's workflows, highlighting areas where improvements can be made. Work on this plan began in the winter of 2014 when all District departments were asked to and began collecting data on their current needs as well as areas for future growth. This brainstorming process was then broken down to core concepts that became the initial draft of the plan. This drafting process was augmented by the formation of an Ad Hoc committee that was created at the February 2014 Board meeting as a means to help guide the departments to develop their ideas even further.

Included in the following document is an overview of where the District stands after three years into the 5-year plan. Updates have been included for the Administration, Information Technology (IT), Ecological Management, Facilities, Control Operations, Public Information, Shop, Geographic Information System (GIS), Fisheries and Laboratory departments.

The 5-year plan is intended to be a living document that can be changed as the needs of the District change. Updates have been given to the Board during the January and July meetings of each year to highlight what projects have been completed, are in progress and have been added or removed.

Summary

- The new District website has been created with implementation by the start of the 2019 mosquito season.
- A Wide area Larvicide Spray (WALS) trial was completed with plans underway for next mosquito season.
- The District applied and received a Public COA from the FAA, an important step moving towards making pesticide applications via drones.
- The Lab has implemented an expanding invasive species surveillance program.
- The comparison of pond treatment methodologies is moving into its next phase with the examination of algal production levels between treatment types.
- The IT department is looking at implementing the T-Mobile carrier for office staff to cut down on the District's mobile phone expenses.
- Control Operations and the Lab are looking at new active ingredients and new products to achieve better control in a variety of sources.

Information Technology

Supervisor: Dan Fisher

Number of employees: 1 full-time

The ULV software for the fogging trucks has been upgraded to include the District's organic map layer (IT-1A). This will allow the District to do away with paper maps as all relevant route information will be displayed on the truck mounted laptops. The IT department has been working with GIS and Ecological Management on improving the green swimming pool detection process by comparing satellite and traditional aerial imagery.

The IT department is also looking at making security enhancements with the purchase of new hardware and software. In house training continues as new threats come up to make sure that staff in addition to equipment is also kept up to date.

With the addition of the Tableau analytics software to the District as a data reporting software the IT department has been creating custom reports (IT-1B). Tableau has the capability of visualizing data in real-time. The IT department is working with the various departments at the District to create custom reports catered to their individual needs.

The department is looking into moving non-field staff mobile phones from Verizon to T-Mobile (IT-5). T-Mobile provides comparable mobile service to Verizon in residential areas but at a lower price point.

Administration

Supervisor: Janna McLeod

Number of employees: 3 full-time

Configuration and training of the new accounting software SAGE is still the driver in Administration (A-4A). Budget reports for the District department have been created and staff is working with the software developer to get reports automated. The payroll portion of the software was tested in January and February and went live in March of 2018 (A-4B). A subset of District staff was trained on the use of the time and attendance end of the software at the conclusion of the mosquito control season. A couple of issues were found but overall the time and attendance software was well received by the test group. The front office staff is working with the program administrators on addressing our concerns and will be rolling out this portion of the new software to staff before the start of the vector control season.

Administration is looking to provide instructional videos to staff on how the open enrollment process works and on how to maximize the benefits the District provides (A-4C).

Facilities

Supervisor: Samer Elkashef

During the offseason the Bond Road office was repainted and a few of the buildings had repairs done to them. The Fisheries building was painted to match the rest of the

buildings on the ground gutters were also repaired on this building to restore proper drainage.

The District reorganized the Pesticide Room at the Bond Road facility (F-12). The District added pallet racks in the Pesticide Room to make it easier for technicians to access the material. This change also helped maximize the storage capacity of the room.

The District is also looking at office space needs (F-13). As more projects are taken on and with the potential of expanding staff to absorb the work that invasive *Aedes* could bring, space requirements in the office areas will be need to be assessed and potentially changed to accommodate growth at the District.

In 2018 the District was approached by a vendor looking to install a cellular tower on our property (F-14). The District is working with the vendor to potentially finalize a contract that will be mutually beneficial to both parties.

Ecological Management

Supervisor: Marty Scholl

Number of employees: 3 full-time

Unmanned aircraft systems (UAS) work continues to be investigated by the Ecological Management department. The capabilities of the AGRAS MG-1S are being explored as staff works on calibration of the unit. Through the efforts of the Ecological Management department the District was awarded a Public COA which removed many of the restrictions that the District had when flying under Part 107. The Public COA also clears the District to apply pesticides via a UAS from the FAA perspective. Currently all department staff are licensed to fly UAS units.

In collaboration with Leading Edge and Associates, the department larvicided over 700 acres with the majority of the work done to support the fall flooding program. The department used this opportunity to learn as much as possible about drone applications in anticipation for the District to perform its own application in the summer of 2019 when the California regulations are released.

The department has been integrating UAS use at the District through a variety of mediums. Atmospheric monitoring using UAS units have moved from the Ecological Management department to the Program Coordinator. This data is being used to fine tune aerial adulticide applications by determining at what altitude material should be released to take advantage of wind and temperature conditions. Another avenue where UAS units are being integrated into current workflows is for BMPs. The District has acquired equipment that will be used in conjunction with a DJI Phantom 4 to map large sources to identify low areas. This information will be used to work with landowners on putting into place BMPs that will in turn reduce pesticide usage on their properties. The department is also looking at smaller units like the DJI Spark as a unit that can be used by field technicians to enhance larval surveillance.

Control Operations

Field Supervisors: Kevin Combo, Demetri Dokos, Randy Burkhalter, Garth Ehrke and Michael Fike
Program Coordinator: Steven Ramos
Number of employees: 31 full-time

This season the Catch Basin program evaluated a new product, SumiLarv 0.5G by MGK (CO-3A). The active ingredient of SumiLarv 0.5G is pyriproxyfen which acts as an insect growth regulator much like s-methoprene. Test sites for this product were selected in Downtown Sacramento, Elk Grove and Woodland to challenge the product in locations that are representative of the District as a whole. The analysis is still underway but so far the results are promising. This would be a new active ingredient to use as part of a rotation in catch basins. One observation made this year was that this product does not seem to be negatively affected by highly organic water which opens up the possibility to use this product in other sources such as dairy lagoons (CO-3C).

The District is evaluating the use of new products on pastures (CO-3B). This year the new Central Life Sciences product Duplex-G is being looked at. This product has an s-methoprene core surrounded by a BTI coating so that it can provide single brood control followed by 28 days of residual control. If this product works as advertised, this can be of benefit in irrigation cycles where *Aedes* mosquitoes come first followed by *Culex* mosquitoes. This season also saw the release of P35, a new 35 day s-methoprene product. A few field technicians used this product and did in fact observe at least 35 days of control.

Control in conjunction with the Lab and Valent Biosciences are looking at the viability of Wide Array Larvicide Spray (WALS) application with VectoBac WDG has a response to West Nile virus and high *Culex pipiens* abundance (CO-3C). The District performed a comprehensive evaluation of this application methodology in both agricultural and urban environments and found some success and promise. The District is looking at expanding use of this technology next season and will continue its collaboration with Valent Biosciences to optimize the process.

Adulticides that the District evaluated this summer include the next iteration of Clark's Merus product for adult control over organic crops (CO-3D). The District has been using the Merus product for 2 years now and is looking to continue its use in areas where adult control is limited. The second adulticide that was looked at by the District this year is Deltagard by Bayer. The active ingredient in this product is deltamethrin and this product performed very well in the field. The District is currently looking at whether to shift to this product moving forward.

Public Information

Supervisor: Luz Maria Robles
Number of employees: 1 full-time

One of the bigger goals that the Public Information department set for itself was to redo the District's website to be more functional and to have a more modern look (PI-2). The District departments all pitched in to review their specific content and based on this feedback the new website was constructed. The new website was then reviewed by staff

and feedback was given to the website contractor to make the appropriate changes. The Public Information department in conjunction with IT will be working on the implementation of the new website with a go live date slated for the Spring.

Recently the media program was re-evaluated using an outside contractor (PI-4) and the same re-evaluation is being done for the events that the District participates in (PI-6). The department is tracking success of each event attended by looking at the number of people reached and the demographics of those who attend the events. The department is also looking at attending smaller community events as a WNV response. For example, if a certain neighborhood has an elevated WNV risk the department would attempt to locate and attend an event in that community to get our messaging out to those residents who are most at risk.

Shop

Supervisor: Thomas Price

Number of employees: 3 full-time

The Shop has been looking at converting the diesel portion of the gas tank to increase the amount of fuel that can be stored at the Bond Road facility (S-2). Contractors have been contacted and the conversion itself is relatively straight forward, however the more costly and time consuming portion will be the permitting process to make sure the District is adhering to emission control standards. Staff will be reaching out to the Air Resources Board to find out what equipment, if any, needs to be put into place and to ascertain the cost of said equipment and permitting.

Now that the fleet has been upgraded the Shop has had more time to work on special projects to assist the other departments (S-7). One of the projects that has been completed is the fabrication of custom cages for the BG Counter traps that are deployed in rice growing areas. The BG Counters require a solar panel, battery and carbon dioxide tank for its operation and the cages that the Shop constructed provide safe storage for them in the field. Upcoming projects include building an interchangeable mounting system for the ATV's so that they can convert from larviciding to adulticiding on the fly and building onboard flushing systems for the fogging trucks.

GIS

Supervisor: Ruben Rosas

Number of employees: 1 full-time

The GIS department has been working on how UAS units can be used to enhance the identification and delineation of treatment areas (GIS-6). The department is collaborating with Compass Drone, a company that specializes in UAS mapping technologies and has developed software that can be used to create shapefiles directly from video footage. This has the potential of speeding up the workflow to get larviciding treatments done both by airplane and via the UAS when permissible.

The GIS department has been working closely with the California Department of Food and Agriculture and the local County Agricultural Departments to improve how information on the organic status of parcels is communicated to the District. One area of

concern is how the District is notified if a parcel is no longer organic as this has a direct impact on what products can be used at a given site.

One of the major focuses of the GIS department is to visualize District data (GIS-11). The department is working on heat maps that illustrate density and movement of mosquito abundance and WNV activity. This will allow the District to view temporal datasets that build over time giving staff the ability to view the movement of virus or a particular mosquito species.

Fisheries

Supervisor: Tony Hedley

Number of employees: 3 full-time

The Fisheries department has been working in conjunction with the District Biologist on assessing whether pond dye can be used instead of chicken manure to fertilize the 22 earthen ponds that are found at the Elk Grove office (FH-1). Last year we showed that pond dye has no negative impact on the yield of mosquito fish as compared to chicken manure. This year the focus will be to quantify how algal production compares between ponds that have received the different treatments. Last year it was anecdotally observed that ponds treated with the dye produced less filamentous algae making seining easier.

Improvements to the ponds themselves are also being looked at this year. One of the projects includes improving the predatory exclusions on the grow out ponds (FH-5). Currently some of the ponds are secured with nets and the department would like to replace the netting with chain-link fencing. This would not only be more secure but would be more resistant to the elements. Another pond improvement will be to examine new control methodologies for the weeds that grow around the ponds (FH-7). Methods being looked at include new chemical control options, biological control and mechanical control.

One of the new projects includes creating a contingency plan in the event that the District's mosquitofish population crashes (FH-6). Elements of the plan will incorporate purchasing fish from outside sources and retrieving fish from sources offsite including wastewater treatment plants and sumps.

Laboratory

Supervisor: Marcia Reed, Debbie Dritz, Sarah Wheeler

Number of employees: 12 full-time

Currently the District Microbiologist performs mosquito pool and dead bird testing at the Sacramento County Public Health lab. The County has been very generous in providing the District with space to perform testing but doing so offsite is not the most efficient use of time as it requires the Microbiologist to arrive at the office in the morning to pick up samples and then travel to the Public Health Lab. The District is looking at improving efficiency in this process by bringing testing in house (Lab-1b). To do so will require a renovation and expansion of the onsite BSL-II facility. The District is still in the early stages of examining this option.

The Lab has made improvements to the chemical room earlier this year with an upgrade to the mosquito containment structures (Lab-7). Further improvements are looking to be made by adding shelving and cabinetry to this room.

The Lab has made improvements to the District's Invasive Species monitoring program with the creation of the Roving Ovitraps schedule (Lab-3). The technician in charge of this program rotates through various sites which enhances the scope and reach of invasive species surveillance. This is important as these mosquito species have a very limited flight range and requires surveillance at a very fine scale.

The Resistance testing program has also seen improvements (Lab-6). At the end of the 2017 mosquito control season a kdr assay for *Culex pipiens* was brought on which allows the District to monitor pesticide resistance at the molecular level. The Lab is looking at increasing the throughput of resistance testing at the District by purchasing equipment to do it in-house which would allow monitoring of pesticide resistance multiple times during the mosquito season.

Recommendation:
Information Only

Sacramento-Yolo Mosquito and Vector Control District

January 15, 2019 Board Meeting

6. Board Review and Consideration of Aerial Contract with Clarke Mosquito Control and Dynamic Aviation

The District has a current contract with Vector Disease Control, Incorporated (VDCI) to conduct our aerial adult mosquito control work. Our contract and subsequent MOU's with Placer, San Joaquin, and Turlock total one million acres for the year. VDCI stations one plane permanently in Sacramento and incorporates a second plane for ten weeks to handle all of our adult mosquito control issues. There are times where more than two planes are needed and this can cause some logistical issues with trying to bring additional planes from the east coast.

The District signed a contingency contract with Clarke Mosquito Control and Dynamic Aviation in August of 2018 through the end of 2018. The District would like to renew the contract for the 2019 calendar year and beyond. We would only utilize this contingency contract if VDCI could not meet our needs and timing. The District will work with Counsel on modifying with the appropriate language.

Recommendation: Authorize the Manager to Enter into a Contract with Clarke Mosquito Control and Dynamic Aviation.



SACRAMENTO-YOLO MVCD

Proposal for 2019 Aerial Spraying for Mosquito Control

Submitted by:

Clarke Environmental Mosquito Mgmt, Inc., a Clarke Company

Representative:

Erin Arnott

December 13, 2018



675 Sidwell Court
Saint Charles, IL 60174
630-894-2000 P
800-323-5727
630-443-3070 F
www.clarke.com



675 Sidwell Court
St. Charles, IL 60174
630.894.2000 P
630.443.3070 F
www.clarke.com

December 13, 2018

Gary Goodman, Director
Sacramento-Yolo MVCD
8631 Bond Rd
Elk Grove, CA 95624-1477

RE: Proposal for Aerial Spraying for Mosquito Control

Dear Gary:

Clarke Environmental Mosquito Management, Inc. (Clarke) is pleased to submit our proposal for the Sacramento-Yolo MVCD 2019 Aerial Spray Services Contract.

Since 1946, Clarke has been setting an unparalleled standard of excellence in the mosquito control industry and is the largest and most experienced provider of contract mosquito control services in the United States. The Clarke corporate office is based in suburban Chicago, and has twelve service offices in eight states. Clarke currently serves over 200 governmental Sacramento-Yolo MVCDs, including municipalities, townships, counties, parishes, mosquito abatement districts, states, and federal agencies (FEMA). The Clarke website (www.clarke.com) provides additional corporate background information.

For the implementation of the Sacramento-Yolo MVCD fixed-wing adulticiding services contract, Dynamic Aviation of Bridgewater, VA would serve as the subcontractor for Clarke. The Clarke-Dynamic Aviation Partnership is the leading provider of mosquito control application services to federal, state and local governments throughout the United States. Our diverse experience and success has been well documented. Much of our collaborative success is directly attributable to our ability to provide the turnkey services necessary to meet the Sacramento-Yolo MVCD's specific needs. The Dynamic Aviation website (www.dynamicaviation.com) provides additional corporate background information.

Since 2003, the Clarke-Dynamic Aviation Partnership has sprayed over 30 million acres for routine and emergency response situations around the United States. Our combined experience ensures the reliability demanded by public health officials facing emergencies arising from hurricanes, flooding, and outbreaks of mosquito-borne diseases, such as West Nile virus (WNV) and Eastern Equine Encephalitis (EEE).

As a partnership, Clarke and Dynamic Aviation are able to provide an expert aerial application program with the following credentials and advantages for Sacramento-Yolo MVCD:



675 Sidwell Court
St. Charles, IL 60174
630.894.2000 P
630.443.3070 F
www.clarke.com

- Utilize **FAA Part 137-compliant, twin-engine, turbine-powered aircraft (Beechcraft King Air) that provide a superior margin of safety:**
 - ✓ With one engine out, King Air turbine aircraft are exempt from dumping the load (fuel or insecticide) over congested areas.
 - ✓ With one engine out, King Air turbine aircraft meet the single engine rate of climb requirement.
- The aircraft are equipped with Ag Nav® and FlightMaster® guidance systems. Navigation is linked to the onboard AIMMS-20 real-time weather system for the offset calculation to ensure optimal adult mosquito population efficacy.
 - ✓ Post mission GIS maps and reports, verifying aircraft performance and flight paths, acres sprayed, and amount of insecticide applied.
 - ✓ Record-keeping provided to Sacramento-Yolo MVCD for NPDES reporting requirements.
- **Military grade night vision goggles (NVG) worn by both captain and first officer for optimal safety of aerial.**
- Capable of treating 20,000 acres per hour per aircraft
- FAA approved congested area plan for approval to spray at a low-level altitude.
- Annual state-of-the-art pilot training program including FAA rules and regulations, low-level aerial spraying procedures, NVG certification, and flight simulator training for maximum proficiency and safety.
- Assistance with GIS mapping of spray blocks
- Public relations program and support
- Auto-flow control spray system for precise insecticide application and documentation.
- Flexible and on-demand application.
- Sky Connect Real-Time Flight Tracking System & website link provided to Sacramento-Yolo MVCD for real-time monitoring of the spray mission progress
- Pesticide flow-metering for insecticide dosage rate precision
- Comprehensive insurance coverage naming Sacramento-Yolo MVCD as *additional insured*, including a \$10 million umbrella policy. Please see the attached certificate of insurance.
- Pesticide loading in compliance with Federal and State guidelines

Our experience, expertise, procedures, thorough training programs, and exceptional track record have enabled us to obtain a level of liability insurance coverage that is unmatched in our industry. Clarke maintains an umbrella / excess liability policy of \$10 million, and the



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630.443.3070 F
www.clarke.com

extremely important "pollution liability" coverage of \$15 million. Sacramento-Yolo MVCD would be named as "additional insured" on all policies.

We appreciate your consideration and look forward to providing Sacramento-Yolo MVCD with an unsurpassed level of quality services. If you have questions regarding our proposal, please do not hesitate to contact the following Clarke representatives:

Mike Muldoon / Director of Domestic Sales @ 630-453-3046
Clark Wood, Vice President / Service Operations @ 630-605-1561
Erin Arnott / Regional Sales Manager, West 760-415-0289

Sincerely,

Mike Muldoon
Director of Domestic Sales

Clarke Environmental Mosquito Management, Inc.
2019 Aerial Contingency Mosquito Control Service Agreement
For Sacramento-Yolo MVCD

PROFESSIONAL SERVICES OUTLINE

This Agreement for aerial adult mosquito control services is made and entered into this _____ day of _____, 2019, by and between Sacramento-Yolo MVCD, a body politic and corporate of the State of California ("The Agency"), and Clarke Environmental Mosquito Management, Inc., an Illinois corporation ("Clarke").

I. CONTRACTOR CREDENTIALS

- A. **Contractor Qualifications.** Clarke shall be an authorized certified business in aerial spraying with spray systems, handling systems, and qualified personnel to implement program services in full compliance with local, state, and federal regulations. To perform services for this contract, Clarke shall provide the Agency a copy of Federal Aviation Administration (FAA) operating certificate for commercial agricultural aircraft operations. In addition, Clarke and subcontractor, Dynamic Aviation, shall be currently licensed as a commercial applicator in the State of California by the Department of Agriculture in categories to enable the aerial application of a pesticide for adult mosquito control. A copy of the Clarke's State of California pesticide applicator business license must be provided. Application records shall comply with the requirements of the Department of Agriculture and be made available upon request.
1. **Prime Contractor and Subcontractor.** It should be understood that Clarke is the prime contractor for this agreement and will be the sole point of contact with regard to contractual matters, including the performance of services. Dynamic Aviation, Inc. of Bridgewater, VA is the aerial application subcontractor for Clarke.
- B. **Pesticide Licensing.** A current State of California pesticide certification and individual commercial applicator license, for each of the pilots, applicators, and support crew who will apply or direct the use of pesticides, is required. Clarke shall provide the Agency copies of certifications for pilots and handling personnel, as required by State of California regulations.
- C. **Pilot Qualifications.** Pilots must be qualified and certified in accordance with applicable Federal Aviation Regulations (FAR 137) and capable of

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completing scheduled flight activities. Pilots shall possess a current FAA commercial pilot, fixed-wing certificate with a FAR 137 endorsement, and maintain currency with FAR 137. Pilots shall meet all requirements of the operator's certificate necessary for conducting operations specified in the contract and possess an appropriate medical certificate, as required by the FAR 137. Clarke shall provide to the Agency a copy of each pilot's qualification and certification, upon request.

- D. **Contact Person and Program Coordination.** Clark E. Wood, Vice President / Service Operations, Clarke Environmental Mosquito Management, Inc. shall be designated to provide supervision, on-going communication, coordinate servicing, answer questions, and ensure performance in accordance with contract terms.
- E. **Public Relations** – Clarke retains the services of The McGowan Group, a professional public relations firm, experienced in the handling of contingency response and West Nile virus outbreak situations. The Agency will have access to the resources of The McGowan Group, including, the preparation of public information announcements, news releases, service and pesticide product fact sheets, call center operations assistance and training, citizen Q & A responses, and assistance with news media interviews (television, radio, and press). Clarke agrees that any news releases produced by The McGowan Group on behalf of Clarke related to this agreement will not be made or issued to the media without the approval the Agency.
- F. **Insurance Coverage.** Clarke and Dynamic Aviation shall maintain aviation insurance policies. Prior to the award of this contract agreement, Clarke shall provide the Agency proof of insurance coverage. Certificates of insurance, separately from both Clarke and Dynamic Aviation, shall be submitted and include the following items or provisions:
- Current date shall be on the insurance certificate.
 - Name of Clarke/Dynamic as the insured contractor/subcontractor, specific job by name, name of the insurer, number of the policy, its effective date, and its termination date.
 - Statement that the insured will endeavor to mail notice to the owner, at least thirty (30) calendar days prior to cancellation of the policy.
 - The Agency shall be named as "additional insured" on the insured Clarke's and Dynamic's respective aviation liability and commercial general liability policies with respect to the operations of the named insureds.
 - Insurance carriers shall meet a minimum financial A.M. Best and Company rating of no less than – S&P Rating A "Excellent."

The required insurance provided by Clarke must include the following coverages and minimum limits, and be specified on the submitted certificate of insurance:

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Worker's Compensation

- As required under Worker's Compensation rules in the jurisdiction, employers liability with limits of not less than:
\$1,000,000 per employee per accident
\$1,000,000 disease aggregate
\$1,000,000 employee per disease

Automobile Liability

- Bodily injury and property damage;
- Including all vehicles owned, leased, hired and non-owned;
- Limits of not less than \$1,000,000 combined single limit Bodily Injury and Property Damage
- Covering all work performed under this Agreement.

Aviation Liability

- Bodily injury and property damage for aircraft owned, leased, hired and non-owned, which are used to perform services under this agreement.
 - \$5,000,000 per occurrence combined single limit aircraft liability, subject to \$250,000 passenger sub-limit
 - Excess aircraft liability insurance, excluding occupants – at least \$15,000,000
 - If any (contractor or subcontractor) passengers are required by the _____ for the performance of this contract:
 - ✓ At least \$250,000 passenger bodily injury, each person
 - ✓ At least \$10,000 medical expenses, each person subject to \$20,000 each occurrence
- Note:** Passenger exposure must be reported to aviation insurer prior to flight for coverage to apply.

Commercial General Liability / Pollution Legal Liability

- \$1,000,000 per occurrence
- \$2,000,000 products/completed operations aggregate
- \$2,000,000 general aggregate
Subject to the terms and conditions of the policy the bodily injury and property damage coverage provided by this policy if the drift of applied chemicals results in covered bodily injury and property damage.
- \$15,000,000 pollution

Umbrella Liability Coverage

- \$10,000,000 per occurrence / aggregate

The required insurance provided by Dynamic Aviation must include the following coverages and minimum limits, and be specified on the submitted certificate of insurance:

Worker's Compensation

- As required under Worker's Compensation rules in the jurisdiction, employers liability with limits of not less than:
\$1,000,000 per employee per accident

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\$1,000,000 disease aggregate
\$1,000,000 employee per disease

Commercial General Liability

- \$10,000,000 each occurrence
- \$5,000,000 personal and advertising injury
- \$10,000,000 products – completed operations aggregate

Aviation and Hull Liability

- \$5,000,000 each occurrence combined single limit aircraft liability, subject to \$100,000 passenger sub-limit
- \$300,000 aerial application chemical drift coverage

I. TECHNICAL SPECIFICATIONS

A. **Equipment.** Clarke shall furnish the Agency FAA approved aircraft, equipped with ultra-low volume (ULV) spray systems for the dispersal of insecticides to control adult mosquitoes over populated areas within the Agency. Clarke shall provide all labor, materials, equipment, supplies, insurance, and any other requirements to complete the terms, conditions and specifications herein. Any other fees, etc. are the responsibility of Clarke.

1. **Certifications / Aircraft Make and Model.** For aerial spray operations over congested areas, Clarke is required to utilize twin-engine turbine aircraft. Clarke shall provide a list, by make and model and registration number, of proposed application aircraft presently owned, leased, or subcontracted by the bidder and committed to this project. All aircraft noted in the proposal must be twin engine, FAA approved and certified at the time of the proposal submittal. Clarke shall provide for each listed aircraft a FAA certificate aircraft registration, and standard airworthiness certificate.
2. **Aircraft Performance.** Clarke shall be in full regulatory compliance with all parts of Federal Aviation Regulations (FAR 137). Clarke shall provide a statement and, if requested to do so, demonstrate the operational aircraft capability and compliance with FAR 137, Subpart C, 137.51.5.ii for the operation of aircraft over congested areas.

The aircraft to be utilized by Clarke are required to have sufficient enough power, with one engine out, to have an exemption of dumping the load (fuel / pesticide) over a congested area. Clarke shall provide the Agency a statement of proof of a FAA **exemption** for FAR 137, Subpart C, 137.53 [c] [2] – load jettisoning for the operation of aircraft over congested areas:

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3. **Aircraft Maintenance.** Clarke shall be in compliance with FAR 137. The application aircraft must be in good mechanical condition with a current 100-hour inspection and a current annual inspection or progressive maintenance plan, per FAR 137. The aircraft logbook may be reviewed by the Agency before acceptance or bid award. New or overhauled engines shall have been flown for a minimum of five (5) hours before use on this project. Should a 100-hour inspection be performed on the aircraft during the course of the project, Clarke shall test fly the aircraft prior to its use and application of pesticides over congested areas. Current logbooks should be available to verify aircraft inspections. Clarke shall, prior to the start of the project, complete all flight tests and approvals required by the FAA to operate all aircraft over congested areas.

The Agency may reject any aircraft deemed not suitable for this contract. Qualifying tests of aircraft may be conducted by Clarke to assure that operational standards are met. All operational costs incurred in conducting these tests shall be borne by Clarke. All aircraft and equipment proposed for use in this project will be inspected prior to the start of the project. Clarke will provide and maintain an accurate daily flight record and furnish the Agency with a copy upon request.

4. **Spray System.** Clarke's aircraft shall be equipped with ultra-low volume (ULV) equipment capable of dispensing the approved product at the U.S.E.P.A. registered label rate per acre, and producing spray droplets in the labeled range to achieve optimum control of the adult mosquito population. Clarke shall provide the Agency a description of the spray system, including make & model, tank, pump, and nozzles, upon request.
5. **Spray System Calibration and Characterization, and Auto Flow Control.** Prior to the initial commencement of the provisions for aerial ULV applications under this contract, Clarke shall perform and document characterization and calibration of aircraft spray system(s). Clarke shall provide documentation of compliance with the *US EPA directive, Pesticide Registration (PR) Notice 2005-1, Notice to Manufacturers, Producers, Formulators and Registrants of Pesticide Products, Recommendation 5. Aerial Application:*

Calibration shall be monitored throughout the project with system flow meters. In addition, Clarke shall provide aircraft

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equipped an Auto Flow Control system that ensures precise application of dosage rate to compensate for any ground speed changes during flight. Documentation of flow meter calibration shall be provided to the Agency upon request.

6. **Support Equipment.** Clarke must furnish all equipment necessary for the spraying project. All equipment and storage facilities are subject to inspection and approval by the Agency. Clarke shall provide a description of pesticide handling equipment, support truck(s), pumping system, and forklift equipment required to implement this project upon request.
7. **GPS Navigation System.** Clarke shall provide a Differentially Corrected Global Positioning System - Based Aircraft Tracking Guidance and Flight Path Recording System (hereafter referred to as DGPS for use by the pilot(s) operating the application aircraft(s) during spray operations that meet the following specifications.

A. Aircraft DGPS Capabilities

The Clarke aircraft DGPS must have the following capabilities:

1. DGPS with software designed for parallel offset in increments equal to the assigned swath width of the application aircraft. A course deviation indicator (CDI) or a course deviation light bar must be installed on the aircraft.
2. The DGPS being used will allow the flight log to be downloaded to an on-site (airport) independent computer for post-flight analysis and review. The flight log must differentiate between spray-on and spray-off when viewed on the computer monitor.
3. The DGPS proposed must have been used operationally in a similar type aerial application program and demonstrated success.
4. Pilot(s) proficiency or evidence of prior experience with the proposed system must be demonstrated prior to awarding of the contract.

B. Clarke equipment requirements and support for DGPS

Clarke shall provide the following:

1. All DGPS equipment, materials, computers (including additional computer other than aircraft computer for post flight analysis and

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review), printers, personnel, and services required for the system to be used. The guidance equipment shall be capable of accurately guiding the aircraft, while flying at application altitude, along parallel flight lines equal to the assigned swath width of the application aircraft, in blocks designated by the soliciting agency.

2. The aircraft shall be equipped with a GPS navigation system, such as AgNav, for precision mosquito control application. In addition, the aircraft shall be equipped with an onboard, in-flight weather system, such as the AIMMS-20® to enable the measurement of real time weather data, including wind speed, wind direction, temperature and relative humidity, at the ULV application altitude.
3. The system shall be sufficiently sensitive to provide immediate deviation indications and sufficiently accurate to keep the aircraft on the desired flight path.
4. All equipment must be installed in accordance with STC or an FAA-ONE-TIME approval and FAA Form 337, by an appropriately qualified, licensed A & P mechanic/inspector.
5. Differential correction coverage for the complete operation area.
6. Post-flight processing computer and software capable of displaying track, altitude and ground speed of aircraft during flight, with differentiation between standard flight and flight when the application system is on/off. Export file format must be compatible with .shp format systems (ArcView) and must be on a mutually agreed-upon data storage medium.
7. Full 24-hour on-call equipment service and operator support.

C. DGPS technical requirements

The equipment offered must provide the following features:

1. Precision GPS tracking and guidance with pilot-selected cross-track error readout adjustable down to 3-feet.
2. Visual display monitor capable of displaying swath width over flight path. Monitor must be mounted in aircraft in a location that will allow the pilot to view the screen with direct or peripheral vision; may display in real time or be

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available for in-flight access immediately after application has ceased.

3. Variable swath width entry.
4. Record logging at a minimum rate of one-second intervals. Full record includes position, time, altitude, speed, track, application system on/off, aircraft number, pilot, job name or number, and differential correction status.
5. System memory capable of storing up to 8 hours of continuous flight log data.
6. Feature which alerts pilot when he/she is about to enter or exit a specific treatment block or an exclusion area within a block. A method to display exclusion areas to indicate sensitive, or no-spray areas within treatment blocks.
7. HOME navigational feature that provides instant range and bearing to home base airport.
8. MARK feature that allows return to point in any swath before or after equipment shutdown.

D. Treatment site information furnished by the Agency

1. Treatment area locations will be provided to Clarke in the following format options (listed in order of decreasing preference):
2. Polygon SHP files with metadata (ArcView) or MIF files (MapInfo) or mutually agreed upon alternate file format [perhaps Microsoft MapPoint].
3. Individual spray block corner coordinates (Lat/Lon, WGS84) within electronic files (DBF, XLS, CSV, or TXT)
4. Color image file of map with electronic mark-up of treatment areas, exclusion areas, and known hazards.
5. In the absence of electronic media, useful paper maps indicating treatment areas, exclusion zones, and hazards. Paper maps should be clear, 8.5 by 11 inches or no larger than 36 by 36 inches, and suitable for rapid processing.
6. Clarke will include the cost associated with the DGPS Tracking and Guidance system in the per acre application price.

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- E. **GPS Navigation System Requirements.** All aircraft are equipped with the AgNav[®] GPS navigation system for precision mosquito control application

Aircraft GPS capabilities shall include pre-flight planning, programmable swath width, in-flight, light bar parallel swath guidance, post-flight data viewing and mapping, and output records of acres treated, and pesticide product applied for each application mission. Post mission GPS maps and reports, verifying the performance of each aircraft, acres treated and amount of product applied will be supplied within 72 hours of the mission.

- F. **Meteorological Onboard Weather System.** Primary aircraft shall be upgraded to include the AIMMS-20[®] meteorological station. The AIMMS-20 system provides real time meteorological data including, wind speed, wind direction, temperature and relative humidity. The AIMMS-20 enables the aircraft to receive real-time weather data at the aerial ULV application spray altitude.

- G. **Aerial ULV Spray Guidance System.** Primary aircraft shall be equipped with the FlightMaster[®] aerial spray guidance system. This system links AgNav[®] and the AIMMS-20 for real time optimization of aerial ULV applications. This system uses real-time weather data to calculate spray cloud position and redirection of the aircraft to ensure effective control of flying adult mosquitoes within the spray block. FlightMaster[®] provides the unique capability of providing flight line guidance to maximize adult mosquito mortality and minimize spray deposit in an exclusion zone.

- H. **Real Time Position Reporting.** Aircraft shall be equipped with the EMS SkyConnect Mission Management System. This system enables one to track and text message the aircraft on a real time basis through a website. This system also includes a satellite phone to permit voice communications with the crew. The Agency shall be provided with a web login to track the aircraft at their discretion.

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8. **Aircraft Communication.** Each aircraft will be required to communicate directly with other spraying aircraft, ground crew, and FAA air traffic control, as required. Each spray aircraft is required to have at least two operating 720 channel VHF aircraft communication radio on board. Bidder shall provide a description of radio equipment with this bid proposal.
9. **Response Time.** Clarke will try to meet the 72 hour requirement but can't guarantee as it will depend on pilot and aircraft availability. In the event of a Federal or State Disaster Declaration, timeline for treatment will be scheduled and prioritized based on the disaster status. Clarke and/or Dynamic Aviation will not be responsible financially if unable to complete a call out or the mission.
10. **Minimum Spray Block Size and Project Acreage.** The minimum spray block size for an aerial ULV project shall be not less than 5,000 acres. The minimum project size per callout shall not be less than the acreage in the option chosen on page 14.

Irregular shapes or significant exclusion areas that significantly decrease the application efficiency will result in an increased application price per acre. Sacramento-Yolo MVCD-proposed spray blocks are subject to the approval for feasibility by Dynamic Aviation.

III. SAFETY AND REGULATORY COMPLIANCE

- A. **Pilot Safety and Night Vision Goggles.** The pilot(s) shall determine any and all hazards and shall, if requested by the Agency, fly each zone to be sprayed prior to the first application. Pilot(s) are responsible for locating and avoiding navigation hazards such as radio towers, and high voltage power lines. The pilot in command is responsible for the safety of the aircraft, its occupants and cargo, and is responsible for the spraying only the approved spray blocks. Pilot(s) shall operate the aircraft in accordance with FAA requirements and safety regulations. Flight safety shall include, but not be limited to, flight hours logged, and rest periods. Upon request by the Agency, Clarke shall provide the pilot safety plan for review.

Since aerial applications for adult mosquito control are performed after sunset at an approximate altitude of 300 feet above ground level, the Clarke will be required to equip the pilot staff with military grade night vision goggles (NVG). As part of the pilot safety plan, Clarke shall provide a description of NVG equipment (make and model), pilot training program and certifications, NVG

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experience of each pilot, and compliance with CFR 14 FAR 61.31(k) regulations.

- B. **Regulatory Compliance: FAA Congested Area Plan, Pesticide Storage, Spill Containment and Pesticide Handling.** Clarke shall provide with this contract a FAA Congested Area Plan for compliance with Federal Aviation Regulations (FAR 137.51). The plan should include the letter of authorization and public notification, as well as, anticipated map(s) of spray zone block(s).

In addition, the Clarke shall provide a description of storage and spill containment systems and methods to comply with state and federal regulations, including The Federal Water Pollution Control Act (commonly referred to as the Clean Water Act [CWA]), Resource Conservation and Recovery Act (RCRA), and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

- C. **Regulatory Compliance: Health and Safety Plan.** Clarke shall ensure its employees observe and exercise all necessary caution and discretion so as to avoid injury to person or damage to property. Upon request, Clarke shall provide the Agency a project specific Health and Safety Plan (HASP) in accordance with Occupational Safety and Health Standard 29 CFR 1910.120, "Hazardous Waste Operations and Contingency Response." The HASP shall be designed to identify, evaluate, and control safety and health hazards, and provide for contingency response activities.

- D. **Regulatory Compliance: Clean Water Act / NPDES Permit.** Clarke shall be in full compliance with the applicable state Aquatic Pesticide National Pollution Discharge Elimination System (NPDES) Permit, including notifications, required plans, and reporting. Clarke shall either make the required filings or coordinate to ensure compliance with the Agency's permit and plan. If Clarke is not the "operator" as defined by the state NPDES, the Agency will ensure permit coverage is obtained and provide Clarke with confirmation of coverage (e.g., certificate of coverage, authorization letter, as appropriate to state) in compliance with the state deadline (usually with-in 30 days of the first application). If Clarke is not the operator, the Agency will provide Clarke a copy of their NPDES permit number and PDMP prior to service. Clarke shall provide the Agency with compliant recordkeeping as part of routine post-mission reports.

- E. **Security Plan.** Clarke must abide by any current regulations issued by the FAA with regard to aircraft and insecticide safeguarding and security. The bidder shall submit with this proposal a security plan that addresses the following requirements:

1. All spray aircraft must be disabled when not in use, and only authorized personnel can start and operate the aircraft
2. All support equipment and insecticide containers must be secured when not in use.

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3. All spray aircraft must be attended or guarded at all times, unless the airport is secured and gated.
4. When guard service for aircraft, insecticide, and / or equipment is required, the Clarke will provide the necessary security personnel.

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**Clarke Environmental Mosquito Management, Inc.
2019 Aerial Contingency Mosquito Control Service Agreement
For Sacramento-Yolo MVCD**

PROFESSIONAL SERVICES AGREEMENT

- I. **Term and Termination.** This Agreement has an automatic **Renewal Clause**. The term of the Agreement shall commence on the date when both parties have executed this Agreement and shall continue for a period ending on December 31, 2019 (the "Initial Term"). Unless either party hereto provides the other party with written notice at least Ninety (90) days prior to the end of the Initial Term or any subsequent renewal term, this Agreement shall automatically continue to renew for additional term, each term having duration equal to the Initial Agreement. If a party hereto fails to comply with a provision of this Agreement, then the other party shall have the right to terminate this Agreement if it gives written notice of the default to the defaulting party and the defaulting party fails to cure the default within sixty days of receipt of said notice.
- II. **Price Increases.** The price for the services rendered hereunder may be increased by Clarke Environmental Mosquito Management, Inc. ("Clarke") on the first day of any calendar year commencing on January 1, 2020 (a "Price Increase Date") by a percentage which shall not exceed a 5% increase (the "Price Increase Percentage") over the preceding contract calendar year period. Clarke Environmental Mosquito Management, Inc. may petition the Agency at any time for an additional rate adjustment on the basis of extraordinary and unusual changes in the cost of operations that could not be reasonably foreseen by a prudent operator.
- III. **Adult Mosquito Control Product.** It is understood that the adult mosquito control product for this aerial ULV contract shall be supplied by the Agency.
- IV. **Program Payment Plan.** Payment for the services outlined in the Professional Services outline will be billed on a per application basis. It is understood the minimum per mission acreage for the Agency adult mosquito control spray application will be determined by the option chosen on page 14. The following prices are provided for aerial ULV application of Sacramento-Yolo MVCD application only for adult mosquito control.

During the contract period, if the Sacramento-Yolo MVCD requests a change in the insecticide dosage rate per acre, a contract amendment for a price change will be required. This agreement will establish a revised price per acre based on the increases in chemical and / application costs.

Irregular shapes or significant exclusions areas that significantly decrease the application efficiency will result in an increased

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application price per acre. Sacramento-Yolo MVCD-proposed spray blocks are subject to the approval for feasibility by Dynamic Aviation.

Service Option	Description of Service	Minimum Call Out	Price Per Acre
<input type="checkbox"/>	Application Only	80,000	\$0.93
<input type="checkbox"/>	Application Only	50,000	\$1.30
<input type="checkbox"/>	Application Only	20,000	\$2.85

V. Payment Terms.

Payment terms are net 30 days upon completion of the mission.

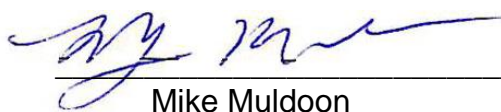
VI. EPA National Pollutant Discharge Elimination System (NPDES) Permit assistance and compliance:

****NPDES Permit:** A National Pollutant Discharge Elimination System (NPDES) permit is necessary for the execution of the work for mosquito control effective October 31, 2011. Any additional costs associated with activities and/or services that may be required by Clarke in order to comply with an NPDES permit are not included in this proposal.

For: Sacramento-Yolo MVCD.

Title Date: _____

For: Clarke Environmental Mosquito Management, Inc.



Mike Muldoon Director Domestic Sales Date: 12/13/18
Title

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**Clarke Environmental Mosquito Management, Inc.
2019 Aerial Contingency Mosquito Control Service Agreement
For Sacramento-Yolo MVCD**

VI. ADMINISTRATIVE INFORMATION:

Invoices should be sent to:

Name: _____
Address: _____
City: _____ State: _____ Zip _____
Office Phone: _____ Fax: _____ E-Mail _____
Purchase Order Number: _____

Contact Person for Sacramento-Yolo MVCD:

Name: _____ Title: _____
Office Phone: _____ Fax: _____ E-Mail: _____
Home Phone: _____ Cell: _____ Pager: _____

Alternate Contact Person for Sacramento-Yolo MVCD:

Name: _____ Title: _____
Office Phone: _____ Fax: _____ E-Mail: _____
Home Phone: _____ Cell: _____ Pager: _____

Please sign, fax, and mail a copy of the complete contract for our files to:

Clarke Environmental Mosquito Management, Inc.
Attn: Mike Muldoon
675 Sidwell Court
Saint Charles, IL 60174

PH) 800-323-5727

Fax) 630-443-3070

www.clarke.com

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Sacramento-Yolo Mosquito and Vector Control District

January 15, 2019 Board Meeting

7. **Closed Session- Public Employee Performance Evaluation:
Manager**

